

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-3 (Canceled).

Claim 4 (Currently Amended): A catalyst comprising a particle comprising silica and a composite oxide comprising molybdenum,

wherein the catalyst comprises a bulk composition and a surface composition,

wherein the Mo/Si atomic ratio in the bulk composition of the catalyst, expressed as

A, and the Mo/Si atomic ratio in the surface composition of the catalyst, expressed as

B, have a relationship such that B/A is not greater than ~~0.6~~ 0.45,

wherein the bulk composition of the catalyst is expressed by the formula 1:



wherein, Sb, Mo, and O are antimony, molybdenum, and oxygen, respectively;

wherein C is at least one element selected from the group consisting of iron, cobalt, nickel, manganese, uranium, cerium, tin and copper;

wherein D is at least one element selected from the group consisting of vanadium and tungsten;

wherein E is at least one element selected from the group consisting of magnesium,

calcium strontium, barium, lanthanum, titanium, zirconium, niobium, tantalum,

chromium, rhenium, ruthenium, osmium, rhodium, iridium, palladium, platinum,

silver, zinc, cadmium, boron, aluminum, gallium indium, sodium, potassium,

rubidium, cesium, thallium, germanium, lead, phosphorus, arsenic, bismuth, selenium, and tellurium;

wherein SiO₂ is silica;

wherein the subscripts a, b c, d, e, f and g each represent an atomic ratio of each element;

wherein a is 10, b ranges from 0.1 to 15, c ranges from 1 to 20, d ranges from 0 to 10, e ranges from 0 to 20, g ranges from 10 to 200 and f is the atomic ratio of oxygen that fulfills the requirement of the valence of each element above.

Claim 5 (Canceled).

Claim 6 (Canceled):

Claim 7 (Canceled):

Claim 8 (Previously Presented): The catalyst of claim 4, wherein B/A is not greater than 0.3.

Claim 9 (Previously Presented): A catalyst comprising a particle comprising silica and a composite oxide comprising at least molybdenum,

wherein the catalyst comprises a bulk composition and a surface composition,

wherein the Mo/Si atomic ratio in the bulk composition of the catalyst, expressed as

A, and the Mo/Si atomic ratio in the surface composition of the catalyst, expressed as

B, have a relationship such that B/A is not greater than 0.45,

wherein the bulk composition of the catalyst is expressed by the formula 2:



wherein Mo, Bi, Fe and O are molybdenum, bismuth, iron, and oxygen, respectively;
wherein F is at least one element selected from the group consisting of sodium, potassium, rubidium, cesium, and thallium;
wherein G is at least one element selected from the group consisting of cobalt, nickel, copper, zinc, magnesium, calcium, strontium, barium, titanium, vanadium, chromium, manganese, tungsten, silver, aluminum, phosphorus, boron, tin, lead, gallium, germanium, arsenic, antimony, niobium, tantalum, zirconium, indium, sulfur, selenium, tellurium, lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, holmium, erbium, thulium and ytterbium;
wherein $\text{SiO}_{2.2}$ represents silica;
wherein h, i, j, k, l, m and n each represents an atomic ratio of each element;
when h is 12, i ranges from 0.1 to 5, j ranges from 0.1 to 10, k ranges from 0.01 to 3, l ranges from 0 to 20, n ranges from 10 to 200 and m is the atomic ratio of oxygen that fulfills the requirement of the valence of each element above.

Claim 10 (Previously Presented): The catalyst of claim 9, wherein B/A is not greater than 0.3.

Claim 11 (New) A method for preparing a catalyst according to claim 4, comprising:
preparing an aqueous slurry comprising molybdenum and silica;
drying the aqueous slurry in a drying chamber of a spray dryer; and
calcining the dried slurry;
wherein hot air flows through the drying chamber, and the difference in the temperature of the hot air at an inlet of the drying chamber and the temperature of the hot air at an outlet of the drying chamber ranges from 20°C to 60°C.

Claim 12 (New) A method for preparing a catalyst according to claim 9, comprising:
preparing an aqueous slurry comprising molybdenum and silica;
drying the aqueous slurry in a drying chamber of a spray dryer; and
calcining the dried slurry;
wherein hot air flows through the drying chamber, and the difference in the
temperature of the hot air at an inlet of the drying chamber and the temperature of the hot air
at an outlet of the drying chamber ranges from 20°C to 60°C.